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ANIMALS AND
THEIR YOUNG

REVISED
EDITION

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INTRODUCTION

There are many living things in this world. Have you wondered how the young of these living things came into this world? Have you wondered how you were **born**? The way in which new living things are made is called **reproduction**. Kittens, puppies, chicks, calves and babies are the result of reproduction. In this book we shall learn all about how the young of animals are born.

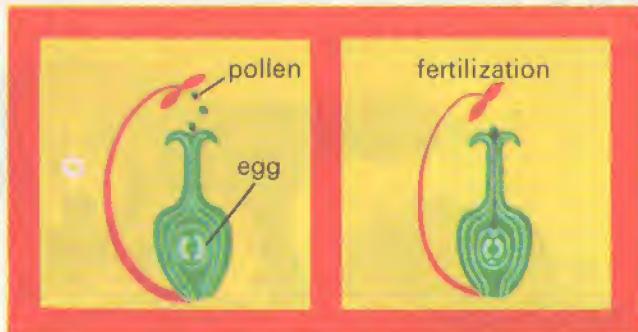


Puppies and their mother

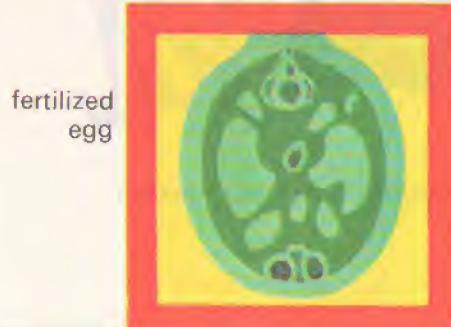
THE EGG AND THE SPERM

We have learned that two things are needed to make a new plant — the **egg** and the **pollen**. In animals too, two important things are needed for making a young animal. Like plants, animals produce eggs. Unlike plants, they do not have pollen. Instead animals have **sperms**. Eggs and sperms are therefore important for reproduction in animals.

We know that to have the young of most animals, there needs to be a **mother** and a **father**. The mother is known as the **female** and the father as the **male**. The female animal makes the eggs and the male animal the sperms.

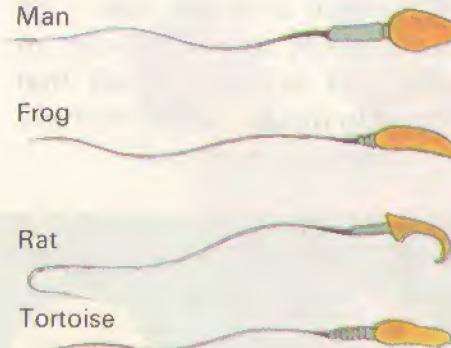


Reproduction in plants



fertilized egg

What are eggs and sperms? The egg made by many female animals is quite small, about the size of a pin head. But some eggs are quite large. Think of a hen's egg, or an ostrich egg!



Different types of sperms

a microscope



The sperm made by the male is very much smaller than the egg of the female. It can only be seen under a **microscope**. A microscope makes very, very small things look big. Sperms look like tiny tadpoles under the microscope. For every egg produced by the female, there are thousands of sperms produced by the male.

The sperms of different animals have different shapes. But all sperms usually have a large head and a long tail. Sperms can swim by moving their tails. They swim towards the eggs.

HOW A YOUNG ANIMAL IS MADE

Out of the many sperms that swim towards the egg, only one goes into the egg. When the sperm gets into the egg, we say that the egg is **fertilized**. During **fertilization** the egg and sperm join together to form a single **cell**. All plants and animals are made up of millions of tiny parts called cells. It is from a cell that the young animal begins to grow. Many animals, even you, started life from this tiny cell!



Fertilization of an egg

The cell soon begins to grow or **develop**. It divides into many small cells and looks like a very tiny ball. Finally these cells grow into a young animal with a head, a body, legs and arms. In some ways the young animal is like its mother and in others, like its father. This is because the cell is made up of parts which come from both the mother and father. Look at yourself in the mirror. Who do you look like?

Parents and their young look alike.



THE YOUNG OF FISHES

Now we know about eggs and sperms and how young animals are made. Let us study about how the young of fishes are made.

The eggs of some fishes float in the water.



The female fish lays many eggs in the water. The eggs of the fish are tiny and may float in the water. The male fish also lays many sperms near the eggs. The sperms swim towards the eggs. Some of the eggs become fertilized by the sperms. The fertilized eggs grow into small

Fertilized eggs grow into baby fishes.



fishes. The little fishes look like their parents but are very much smaller. However, not all these little fishes grow into bigger fishes. Many of them are eaten by big fishes and water insects. Thus, out of the thousands of eggs laid, only a few hundreds get fertilized and grow into baby fishes.

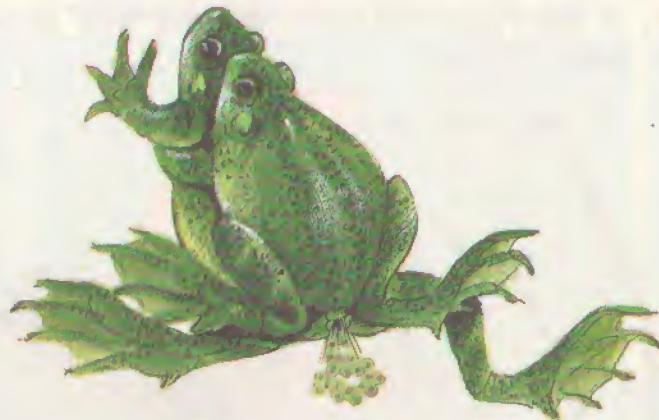
Big fishes eat many baby fishes.



Now we know why so many eggs are laid by fishes. It is necessary that many eggs are laid by fishes. The large number helps at least a few to escape being eaten. What would happen if fishes laid a small number of eggs?

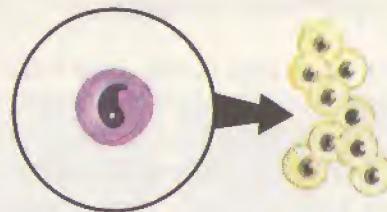
THE YOUNG OF FROGS

Female frogs lay many eggs also, but not as many as fishes. They reproduce in a different way. The male frog sits on the female frog's



Male and female frogs

back. Then while the female frog lays her eggs, the male frog gives out his sperms. Most of the eggs are fertilized. This is because, unlike the fish, the sperms and eggs are laid very, very near one another.



Fertilized eggs grow into tadpoles.



Young tadpoles

The fertilized eggs grow into small **tadpoles**. These tadpoles are not like their parents. Each tadpole is black in colour and has an oval head and a tail. The tail helps it to swim. Many of these tadpoles are eaten by fishes. The tadpoles grow little legs after some time. They lose their

Tadpoles grow little legs.



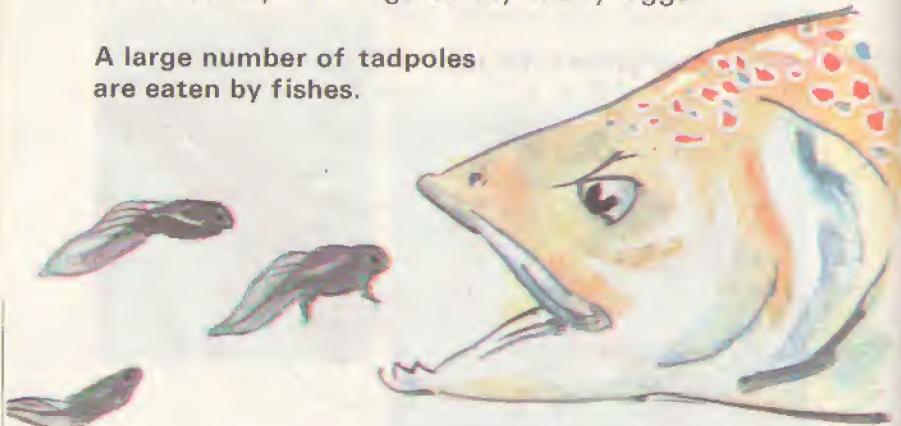


Tadpoles grow into adult frogs.

tails and move closer to the land. They soon look like their parents, and are able to walk on land. After a few days they begin to live like their parents.

Since many tadpoles are eaten by fishes, it is necessary for frogs to lay many eggs.

A large number of tadpoles are eaten by fishes.



THE YOUNG OF REPTILES

You have just learnt that the female fish and the female frog lay their eggs in water. Although most reptiles such as crocodiles and turtles live in water, they lay their eggs on land. These eggs are already fertilized. They have tough shells which protect the young reptiles inside from drying up. The eggs provide the young reptiles with food. After some time the young reptile hatches out from the egg.

Young turtles hatching out from eggs



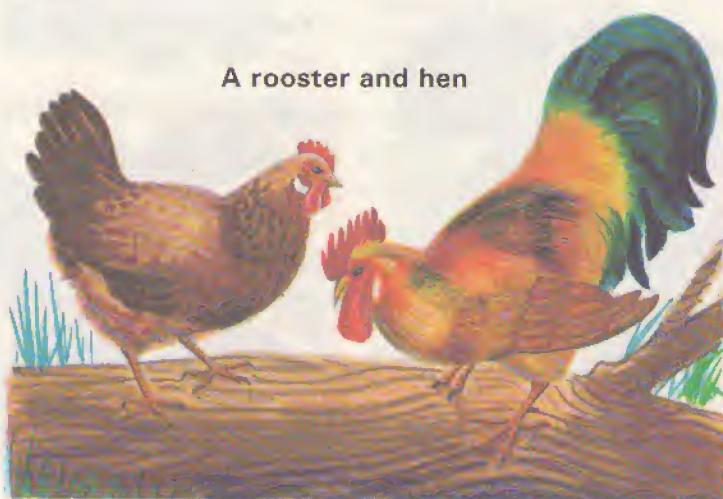
A mother turtle laying her eggs in the sand



Turtles lay their eggs in holes on the beach. Each mother turtle digs the hole herself and lays about one hundred eggs in the hole. She then covers the hole with sand before going back to the sea. When the young turtles hatch out, they dig their way out of the hole and immediately make for the sea.

THE YOUNG OF BIRDS

The eggs of the female fish and the female frog are laid in water. They are fertilized by sperms which the male fish and the male frog lay in the water also. However, this sort of reproduction cannot be carried out by reptiles and birds. The female reptile and the female bird lay eggs which are already fertilized. How, then, is it possible for their eggs to be fertilized?



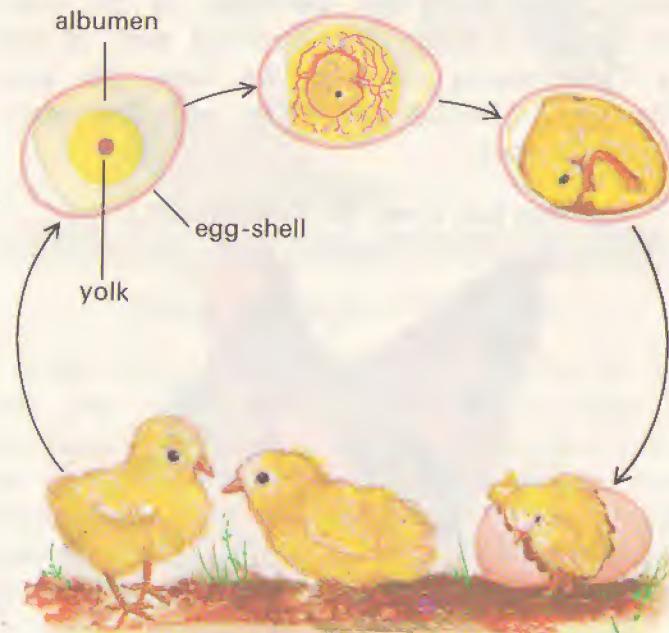
A rooster and hen

The eggs of the hen lie inside her body. She cannot let her eggs out of her body like the fish or the frog. To fertilize the hen's egg the sperms have to be sent to where the egg is in the body. The rooster therefore has to pass his sperms into the body of the hen. This is known as **mating**.

The rooster has an opening under his tail through which the sperms can pass out. The hen also has an opening beneath her tail. This opening leads to the part where the egg lies in her body.

To send the sperms into the hen's body the rooster first climbs on to her back. He then places his opening on to that of the hen. The sperms are then let into the opening in the hen's body. In the hen's body the sperms swim up from the opening towards the eggs.

A chick develops from an egg.



The eggs which are in the hen's body are without shells. Each egg can only be fertilized by one sperm. After fertilization a **shell** is formed. The shell covers and protects the fertilized egg. A large egg is laid through the opening through which the sperms entered.

The hen's egg, which we all have seen, contains food for the young growing chick. If it is broken you can see a round yellow part. This yellow part is called the **yolk** of the egg. The yolk is surrounded by a colourless sticky part. This colourless part is called the **albumen**. It turns white when the egg is cooked. Sometimes a small spot can be seen on the yolk. This spot is actually the fertilized part of the egg. The young chick grows from this part of the egg. It makes use of the yolk and albumen as its food.

The hen keeps her eggs warm.



The mother hen sits over her eggs and keeps them warm. She keeps them warm for about three weeks. At the end of the third week the chick becomes big enough to live outside the egg. It then breaks open the shell of the egg and comes out of it. The chick is said to **hatch** out from the egg. The chick is quite helpless and is looked after by its mother. The mother hen looks after her chicks for about six weeks after which time they look after themselves.



Mother hen protects her chicks.

Frogs, most fishes and most reptiles do not look after their young. That is why most of the tadpoles, young fishes and young reptiles are eaten by other animals. The mother hen, however, looks after her chicks. She protects them and keeps them safe from other animals. When there is any sign of danger, she cuddles her chicks under her wing.

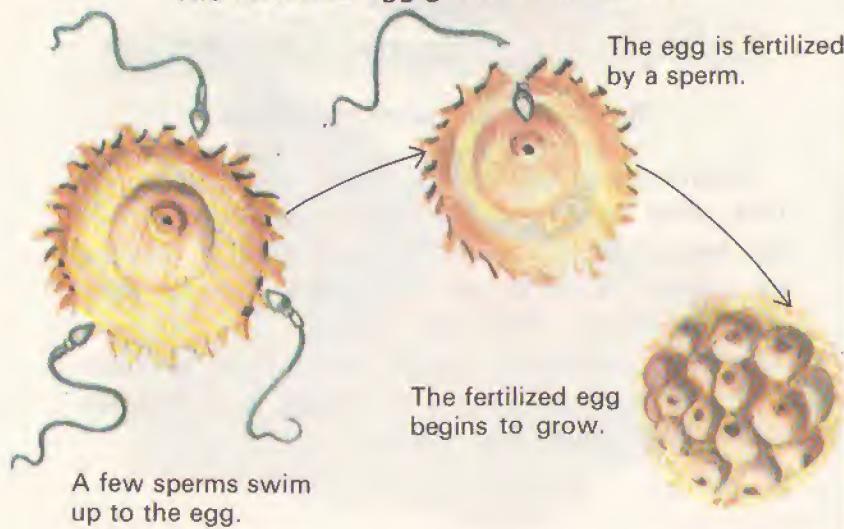
THE YOUNG OF RABBITS

The young of some animals do not hatch out from eggs. Kittens, puppies, calves and you too, did not hatch out from eggs. Let us now study about an animal which does not hatch out from an egg. The rabbit is a good example.

The female rabbit makes eggs in two special parts of her body. Each part is called an **ovary**. The male rabbit makes sperms inside his body. He makes sperms in his two **testes**.

The male rabbit has to put the sperms into the female rabbit's body to fertilize the eggs. He does so with the help of his **penis**. The sperms from the testes can pass through the opening of the penis. The male rabbit places his penis into an opening in the female rabbit. He does so by mounting her.

The fertilized egg grows in the uterus.



The egg finally develops into a young rabbit.

The opening in the female rabbit through which the penis enters is called the **vagina**. It leads to where the eggs are. When the sperms are let out from the penis they swim towards the eggs. The eggs are then fertilized by the sperms.

The fertilized eggs grow into young rabbits. The young rabbit grows in a special part of the female rabbit's body. This part is called the **uterus**. The growing rabbit, unlike the developing chick, gets food directly from its mother. It gets all its food in this way while it grows inside the uterus.

After about one month the baby rabbit grows big enough to live outside the mother rabbit's body. It is then **born**, that is, it comes out alive through the vagina. The female rabbit

usually gives birth to several baby rabbits. If several eggs are fertilized, several rabbits are born.

The baby rabbits are helpless when they are born. They are not able to find food on their own. They are fed by the mother rabbit. The food that the mother gives her young just after

The baby rabbits are fed by the mother rabbit.



they are born is called **milk**. It is given from the mother's **teats**. Teats are also known as **nipples**. Have you seen baby rabbits sucking milk from their mother's teats? After a few weeks the little rabbits grow big enough to look after themselves.

Cats, dogs, cows, horses, goats and human beings produce their young in the same way.

ONLY THE SAME TYPES OF ANIMALS CAN MATE TOGETHER

So far we have seen that only animals of the same kind can mate with each other. Male dogs can only mate with female dogs to produce young dogs or puppies. Male cats can do the same only with female cats to produce young cats or kittens. It is not possible for a cat to mate with a dog.

These pairs can mate together.



a pair of dogs



a pair of birds



a pair of fishes



a pair of lions

THE GESTATION PERIOD

The egg can be fertilized after animals mate. Some time is taken after fertilization before the young is born. The time from fertilization till the young is born is called the **gestation period**.

The gestation period of some animals is short while that of others is long. The gestation periods of some common animals are given below.

ANIMAL	GESTATION PERIOD
Cat	63 days
Cow	284 days
Deer	215 days
Dog	61 days
Elephant	645 days
Flying Fox	50 days
Goat	151 days
Horse	337 days
Kangaroo	40 days
Man	267 days
Mouse	19 days
Rabbit	30 days
Rat	22 days
Whale	365 days

Some animals and their young



sheep ▲



elephants ▲



antelopes



fowls ▶



monkeys ▶

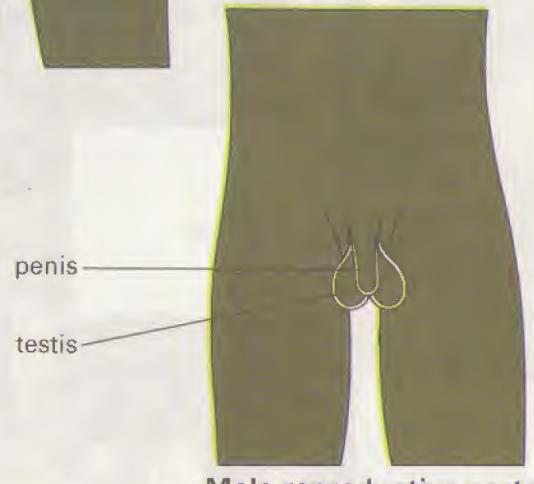
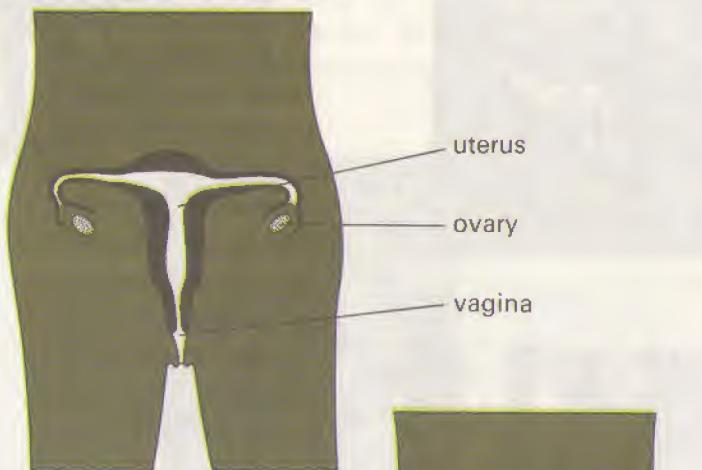


kangaroos ▲

HOW HUMAN BABIES ARE BORN

We have learnt how the young of other animals are made. How are human babies born? Human babies are born in much the same way as the young of cats, dogs and rabbits.

Female reproductive parts



Male reproductive parts

A woman, unlike the pig, rarely produces more than one baby at a time. If she produces two, then the babies are called **twins**. If she produces three at a time, they are called **triplets**.

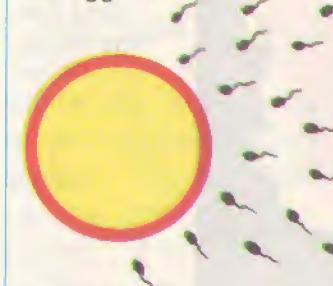
A woman usually produces one egg every month inside her body. If this egg is not fertilized it will be passed out from her body. To fertilize the egg, the man has to place his penis

**Fertilization
in Man**

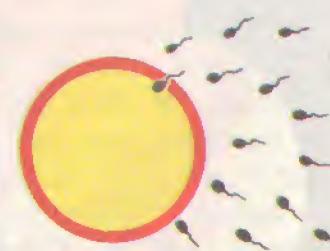
human sperms



Many sperms swim towards
the egg.



Only one fertilizes it.

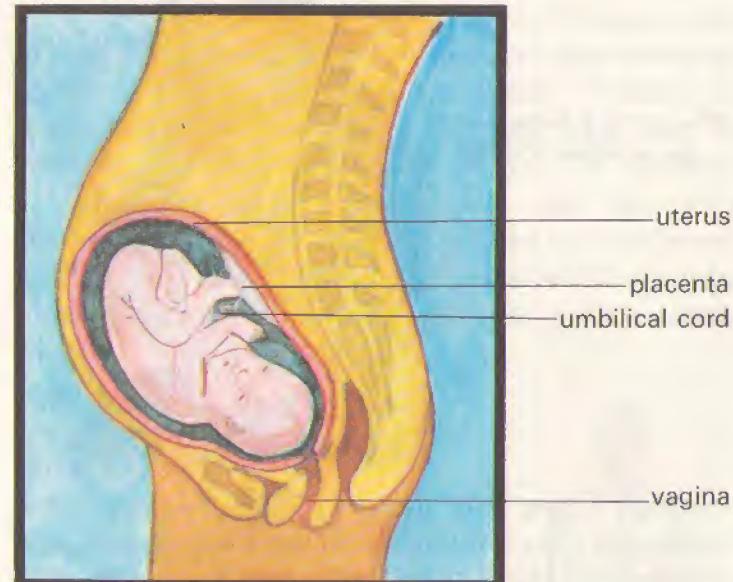
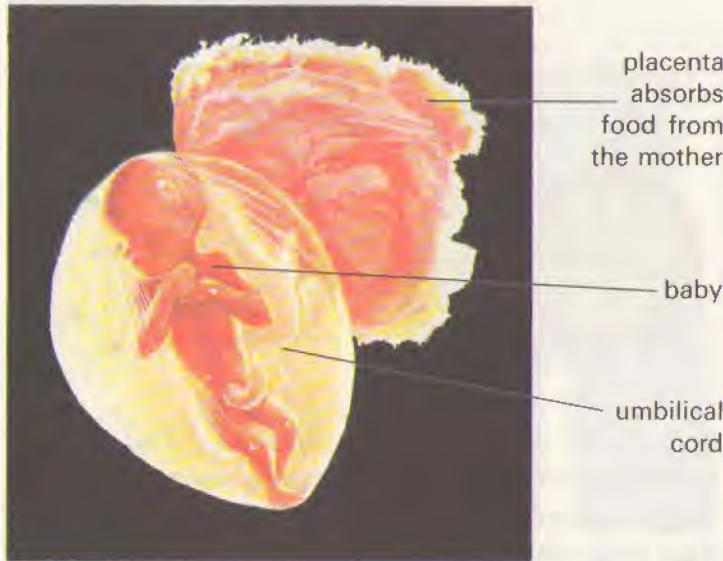


inside the vagina of the woman. The sperms which come out from his penis swim up to the vagina towards the egg. However, only one gets into the egg and fertilizes it.

When the egg is fertilized, an embryo is formed and the baby grows from it. When a woman is going to have a baby she is said to be **pregnant**. The young baby grows in the uterus of the mother. He obtains his food from the mother. The baby is joined to the mother by a special tube or **cord**. He receives food from the mother through this cord.

While the baby grows inside the mother, the mother's **breasts** become filled with milk. The milk made by the mother is very important. It will be used by the baby as food when he is born. The baby remains in the uterus for nine months.

The baby is joined to the mother by a special cord.



Section of the uterus of the mother showing baby growing within it.

The baby is born after nine months. He leaves the mother's body through the **vagina**. When the baby is born the cord is still joined to the mother's body. The cord is cut by the doctor. The cut soon heals up but leaves a mark on the baby's body. This mark is called the **navel**. It is also often called the 'belly button'.

The baby is helpless when he is born. The mother takes great care of him. The young baby feeds on his mother's milk for a few months. Among all the newly-born animals, the human baby is the weakest, and also the most helpless. The



The young baby feeds on mother's milk.

mother helps the baby to grow strong. The young of other animals can walk soon after they are born. The human baby can walk only after several months.

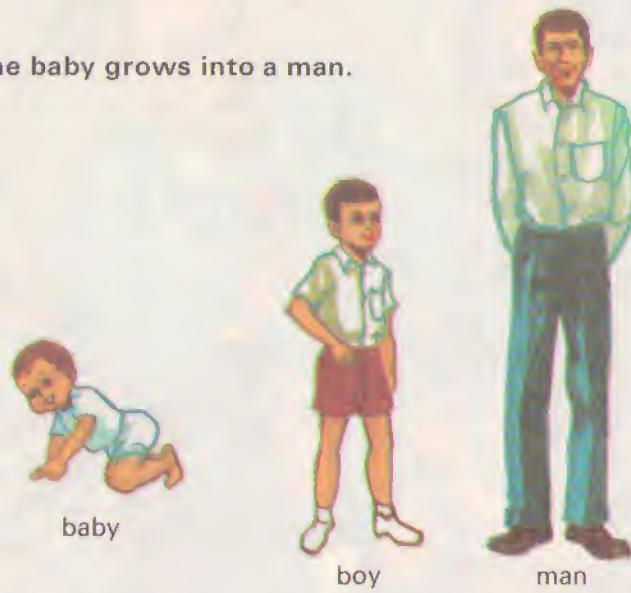
Animals look after their young in different ways but human beings give the greatest **love** and **care** to their young. The birth of a human baby is a joy to everyone. How proud and happy a mother is when a child is born! The human baby is cared for not only by the mother but by the whole family as well. He receives **food**, **shelter** and **protection** from his parents. The child also receives love and kindness from the family. The human baby, unlike the young of other animals, is taught to speak and do many things.

The child learns to live with the family. You have seen that young animals live on their

own as soon as they can take care of themselves. The child, however, does not leave the family as soon as he can take care of himself. Instead he lives with the family for a long time and is still loved and taken care of by his parents.

When he is about six years old, the child goes to school. He is able to think in a different way to other animals. He knows what is right and wrong. The parents and the teacher teach him to lead a good life.

The baby grows into a man.



When he becomes a man he will know how to live a good life. He helps others. Unlike the young of other animals he helps his parents when

they are old. That is why we say that only human beings can live a **family life**. All good families live a happy life.

A happy family

